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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,430	09/19/2003	Yong Wang	B-1484-DIV2	8308

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FRANK ROSENBERG  
18 ECHO HILL LANE  
MORAGA, CA 94556

EXAMINER
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NGUYEN, CAM N

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 07/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/666,430	<b>Applicant(s)</b> WANG ET AL.	
	<b>Examiner</b> Cam N Nguyen	<b>Art Unit</b> 1754	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09/19/03 (a divisional of application).
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 16-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

1. Claims 16-17, 22, & 26 are objected to because of the following informalities:
  - A. In claim 16, line 1, "porous support" should be changed to --porous structure--.
  - B. In claim 16, line 5, "combination" should be changed to --combinations--.
  - C. In claim 17, line 1, "porous support" should be changed to --porous structure--.
  - D. In claim 22, line 2, "porous support" should be changed to --porous structure--.
  - E. In claim 26, line 1, "porous support" should be changed to --porous structure--.Appropriate correction is required.

### *Claim Rejections - 35 USC § 102(a)*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 16-39 are rejected under 35 U.S.C. 102(a) as being anticipated by Wang et al., "hereinafter Wang", (US Pat. 6,491,880 B1).

Wang discloses a catalyst structure for Fischer-Tropsch synthesis, comprising: a porous structure with a pore surface area and a pore size of at least about 0.1  $\mu\text{m}$ ; wherein the porous structure comprises honeycomb, felt, foam or wad; a buffer layer disposed on said porous structure; a porous interfacial layer with a pore surface area and a pore size less than the pore size of the porous structure, said porous interfacial

layer disposed upon said buffer layer; a Fischer-Tropsch catalyst selected from the group consisting of cobalt, ruthenium, iron, rhenium, nickel, osmium, and combinations thereof placed upon said pore surface area of said porous interfacial layer (see col. 14, claim 1). The porous structure has a geometry selected from the group consisting of foam, felt, and combinations thereof (see col. 14, claim 2). The porous structure is of a material selected from the group consisting of metal, ceramic and combinations thereof (see col. 14, claim 3). The porous interfacial layer is selected from the group consisting of  $\gamma$ - $\text{Al}_2\text{O}_3$ ,  $\text{SiO}_2$ ,  $\text{ZrO}_2$ ,  $\text{TiO}_2$ , magnesium oxide, vanadium oxide, chromium oxide, manganese oxide, iron oxide, nickel oxide, cobalt oxide, copper oxide, zinc oxide, molybdenum oxide, tin oxide, calcium oxide, aluminum oxide, lanthanum series oxide(s), zeolite(s), and combinations thereof (see col. 14, claim 4). The buffer layer is selected from the group consisting of  $\text{Al}_2\text{O}_3$ ,  $\text{TiO}_2$ ,  $\text{SiO}_2$ ,  $\text{ZrO}_2$  and combinations thereof (see col. 15, claim 7). The porous structure has a pore size of 10  $\mu\text{m}$  to 300  $\mu\text{m}$  (see col. 15, claim 10). The catalyst possesses catalytic activity such as, if the catalyst is placed inside an isothermal furnace and exposed to a feedstream consisting of a 3 to 1 ratios of hydrogen gas to carbon monoxide, at  $250^\circ\text{C}$ ., at 6 atm, at a contact time less than 5 seconds and the product stream is collected and cooled to room temperature, the selectivity to methane is less than 25% and the carbon monoxide conversion is greater than 25% (see col. 15, claim 11). The porous structure is a metal foam (see col. 15, claim 13). The metal foam comprises 20 to 3000 pores per inch (see col. 16, claim 14). The interfacial layer has a depth of less than 50  $\mu\text{m}$  (see col. 16, claim 16).

Wang discloses the claimed catalyst structure, thus anticipates the claims.

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**Citations**

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 Form attached. All references are cited for related art.

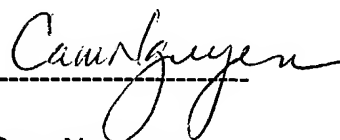
**Conclusion**

5. Claims 16-39 are originally pending in the application. Claims 16-39 are rejected. No claims are allowed.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Cam Nguyen, whose telephone number is (571) 272-1357. The examiner can normally be reached on M-F from 9:30 am. to 6:00 pm.

The appropriate fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to telephone number (571) 272-1700.

  
Cam Nguyen

Primary Examiner

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Nguyen/cnn 

July 26, 2004